

THE IMPACT OF PARAPROFESSIONAL VERSUS VOLUNTEER-DRIVEN HOME VISITING PROGRAMS ON THE WELLBEING OF ORPHANS AND VULNERABLE CHILDREN: EVIDENCE FROM A LONGITUDINAL EVALUATION IN KWAZULU-NATAL, SOUTH AFRICA.

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KEY FINDINGS

Programming models that engage trained, compensated paraprofessionals in home visiting have clear strengths over volunteer-reliant approaches.

Households served by paraprofessionals benefit from longer, more frequent home visits and are more likely to receive certain types of tangible and emotional support.

Paraprofessional home visiting programs demonstrate significant promise in increasing families' access to social grants as well as in the fulfillment of children's material needs.

Gaps remained even among enrollees of the paraprofessional models with respect to other outcomes measured reflecting psychological health, child protection and HIV risk.



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INTRODUCTION

Almost 17 million children worldwide have been orphaned as a result of AIDS, 1.9 million in South Africa alone [1]. Many millions more have been made vulnerable due to familial illness. All of these orphans and vulnerable children (OVC) are at increased risk for serious adversity including hunger, psychological distress, and HIV infection [2]. Local, national and international stakeholders have made substantial investments in programming to support this population. There remains, however, little empirical evidence on what works to improve the wellbeing of children and families affected by HIV. This study was designed to improve our understanding of the impact of community-based home visiting, a commonly used strategy for OVC support.

Community-based home visiting is a family-centred program approach in which care workers provide a range of support services during regular visits to the child's home. This approach is increasingly popular as it ensures that children can remain in their communities, while channelling much needed support to families [3]. Within this framework, there is enormous variation in how home visiting programs are implemented. At one end of the spectrum, programs rely entirely on lay volunteers with limited training. At the other end of the spectrum, programs offer home visitors paraprofessional training and compensation. A key question for donors and implementing agencies is whether this additional investment translates into greater gains in children's wellbeing.

This study evaluates the relative impact of two home visiting program models on the scope and intensity of service delivery and selected child wellbeing outcomes. Models studied include: 1) home visiting programs that use a highly trained and compensated paraprofessional workforce, and 2) programs that rely on volunteers, who may receive limited training and nominal incentives for their efforts. It examines indicators reflecting the families' linkages to needed social services, obtainment of basic needs, the psychological health of children and their caregivers, child protection and HIV risk factors. This information can be used to identify home visiting models that are likely to have the greatest impact on children's wellbeing according to these measures, and subsequently to inform program improvement and resource allocation decisions. This report is intended to help practitioners design OVC programs, assist national organizations in providing effective guidance to partners, and enable government policy makers to maximize benefits for their most vulnerable constituents.

The study detailed here is part of the Compiling an Evidence Base for OVC Programming project, made possible by the generous support of the American people through the United States Agency for International Development (USAID) in Southern Africa. Tulane University School of Social Work, as the prime funding recipient, works closely with USAID Southern Africa, Impact Research International (IRI), and South African implementing partners to produce knowledge that will improve existing practices and guide future investment in OVC programming.



Methods

Study Design and Sample

Program impact was assessed via a longitudinal study of families enrolled in various OVC home visiting programs operating within predominately rural areas in seven of the eleven districts of KwaZulu-Natal Province (KZN), South Africa. The sample included children age 10-17 years who were newly enrolled in a study program at baseline. Program eligibility criteria differed slightly between provider organizations, but generally included orphans, children living with ill caregivers, child-headed households and children living in extreme poverty. A maximum of two randomly selected age-eligible children per caregiver were included in the study.

Information on beneficiary children and their primary caregivers was collected in two survey rounds: the first conducted at the time of program enrolment and the second after approximately two years of program engagement when the children were aged 12 - 19. Face-to-face interviews were conducted in isiZulu privately with each participant at his or her residence. The surveys focused primarily on the experiences and wellbeing of the child, but also collected information on household and caregiver-level variables. The surveys also included questions regarding children's and caregivers' interactions with the care worker that had visited their home, as applicable.

The baseline survey was administered to 1856 children and their respective caregivers (i.e., the parent or guardian who accepts primary responsibility for the child's care) between April and June 2010. The follow-up survey was administered to the same child beneficiaries between May and June 2012. Caregiver surveys were administered at the same time; if the child's caregiver had changed since baseline, the new caregiver was interviewed at follow-up. Up to three visit attempts were conducted to locate children, and every effort was made to find and interview children who had moved within KwaZulu-Natal between survey rounds. In total, 80% of children and their caregivers were included in both survey rounds.

Program Models

For the purposes of this study, home visiting programs are classified as utilizing a volunteer-driven model (those that rely primarily on lay volunteers) or paraprofessional model (those that offer training and compensation for the care workers who perform home visits). A total of 30 community based organizations (CBOs) that provide home visiting services to OVC in KwaZulu-Natal Province were engaged in this study. Fourteen of these CBOs were considered to offer paraprofessional services as they have care workers conducting home visits who receive training of 80 or more hours, and compensation of at least R1000 (approximately \$110) per month. The paraprofessional services are realized through support from two South African non-government organizations (NGOs): Heartbeat International and the National Association of Child Care Workers (NACCW).

The remaining CBOs were classified as having volunteer-driven approaches and rely on home visiting services delivered by care workers with limited training or compensation. They include CBOs receiving support from Heartbeat's Tswelopele initiative and the Children in Distress Network (CINDI). Box 1 provides an overview of components of the various programmatic approaches, including support provided from the South African NGOs to the CBOs as well as partners' organizational capacity and geographic locations. Further program details, including the care worker training topics; approaches to working with the community; modes of service delivery; and strengths and constraints in program implementation, are available in separate case studies [4-6].

Box 1. Home Visiting Program Models

Paraprofessional Models

National Association of Child Care Workers (NACCW): In close collaboration with local implementing partners, NACCW offers the Isibindi model that includes home visits and support from highly trained and employed Child and Youth Care Workers (CYCW). They have paid staff to oversee the roll-out of the program and who provide regular mentoring to CYCWs. These home visitors receive a stipend of R1000 (\$110) or more each month, and are required to have a Grade 10 - 12 qualification and basic English communication skills. CYCWs complete over 400 hours of accredited on-the-job training and competency assessment over a two/three year period. A total of 13 CBOs implementing the Isibindi model across five districts (Ugu, Uthukela, Umzinyathi, uThungulu, and Sisonke) were engaged in this study.

Heartbeat International: Heartbeat likewise promotes home visits to OVC households by trained and compensated care workers. Heartbeat home visitors receive R1250 (\$140) of monthly compensation and undergo 80 hours of training over a two week period prior to initiating home visiting; they receive additional refresher training on an on-going basis. Care workers are not required to have minimum educational qualifications, although they must demonstrate literacy and English language skills. The organization receives external funding and maintains a team of paid staff that provides on-going monitoring and support to home visitors. Heartbeat care workers operate within a selected catchment area of Umkhanyakude district.

Volunteer-driven Models

Tswelopele: In addition to offering services directly, Heartbeat also provides mentoring, training and limited material support to CBOs within Umkhanyakude district, 8 of whom were engaged in this study. These CBOs do not necessarily receive external funding and are rarely in a position to compensate their organizational staff or home visitors. Given the heavy reliance on volunteers, there is minimal training and no minimum educational or other qualifications for home visitors.

Children in Distress Network (CINDI): CINDI's CBO partners likewise receive training and material support through CINDI; however, they too may operate with limited available financial resources and few to no paid organizational staff. Similar to Tswelopele, CINDI partners provide home visiting to OVC households through volunteers who receive minimal training and compensation. A total of 8 CINDI network member CBOs operating in Umgungundlovu district participated in this study.

Analyses

Analyses examining child-level outcomes, including both service exposure and program impact, were limited to the 1487 children with survey data at both rounds. For a subset of these respondents, the primary caregiver at follow-up was different than the caregiver at baseline. All cases with caregiver data at both rounds, including this subset, were incorporated in our analyses of service exposure (N=1068). When examining change in caregiver-level outcomes over time, however, we limited the sample to the 918 caregivers who remained the same across both survey rounds. Basic statistical tests (t-tests and chi-squared) were employed to illustrate differences at the two points in time between children enrolled in the two home visiting models of interest (volunteer-driven or paraprofessional); we similarly tested whether exposure to and quality of home visiting services varied by programmatic approach. More advanced regression models were used to test for the effect of program quality on children's wellbeing. These included variables representing program model (volunteer or paraprofessional), time (baseline or follow-up), and interaction between program model and time. The interaction term captures the relative impact, or additional benefit, of being enrolled in the paraprofessional program compared to the volunteer-driven program.

Models also adjusted for factors that might be related to both program exposure and child wellbeing, and that could otherwise obscure the effects of the program. For example, household income may be related to program exposure (e.g., some programs operate in poorer communities) and related to study outcomes (e.g., income is a key determinant of food security). Statistically adjusting for such factors allows for conclusions about the program's independent impact (e.g., for households with the same level of income, what effect did the program have on food security?). Models adjusted for the following factors: the child's age, gender, orphan status and relationship to the caregiver; the caregiver's age, gender, marital status (married or living with someone as if married, versus other partnership status) and education (none versus any); and the household's inclusion of chronically ill members, dependency ratio, income category, and type of community (urban versus rural). Models allowed for time-variant confounders (e.g., they take into account that a child may be a single orphan at baseline and a double orphan at follow-up). For child level outcomes, gender-specific analyses were conducted to examine impact separately for boys and girls. Analyses are based on an intent-to-treat approach; that is, children are analysed based on their enrolment in a given program model, regardless of whether they reported receiving program services. This means that participants were included in analyses as 'treated' even when they reported that they were not visited by a care worker. This allows for the possibility to estimate the effects of an intervention in practice, not the effects in the subgroup of participants who adhere to it. By using an intent to treat model, we can analyze how an intervention works in a realistic context -- which explicitly acknowledges the fact that not all will receive the intervention as designed. Secondary analyses were conducted using an as-treated approach (i.e., children were analysed based on their reported receipt of program services: reported exposure to a paraprofessional program; reported exposure to a volunteer-driven program; and no reported exposure to either model); results did not differ from the intent-to-treat approach and thus are not included in this report.

Limitations

Feasibility concerns and ethical considerations placed important limitations on the research design; the study lacks a control group not enrolled in a home visiting program, lacks randomization in program type assignment and experienced some loss to follow-up. There are also important limitations with respect to the study scope and duration, reliance on respondent recall, and overall generalizability of results. These issues along with efforts undertaken to minimize their potential influence are discussed in greater detail below.

Lack of Control Group: Ideally, this study would be able to compare children enrolled in different program models to those receiving absolutely no services for the duration of the study (a control group), in order to see what would have happened in the absence of any program enrolment. However, once programmers identify children in need of services, they have an ethical obligation to make sure the services are provided in accordance with their own standard of care. Thus, this study compares children enrolled in paraprofessional programming to those in the volunteer-driven programming. However, enrollees in the volunteer-driven group ultimately reported low intervention exposure, and consequently more closely approximate an untreated control group.

Lack of Randomization: Similarly, the strongest evaluation design would offer all participants equal probabilities of assignment to the programs under study as a way to ensure that differences between children (e.g., age, poverty level, access to community resources) are distributed randomly across the groups. However, the study worked with existing programs serving purposively-chosen communities and it would not have been feasible to randomize children to different programs; rather they received services from the program partner already operating nearby. Thus, the groups are drawn from different communities in KZN, and these communities may vary on important factors, such as the presence of other care and support initiatives. These systematic differences could affect children's outcomes, biasing the evaluation. Moreover, results may be influenced by varying demographic profiles of the enrolled children and families across these communities. This bias is reduced substantially through the use of longitudinal data and multivariate models that control for differences in observable characteristics across sites and enrollees.

Loss to Follow-Up: Loss of subjects to follow-up affects nearly all research involving data collection on the same subjects over time. It is a source of potential bias in the results, because the intervention may have affected the children who remained in the study differently than those whom the study was not able to retain. This study minimized loss to follow-up by collecting comprehensive contact information at baseline, triangulating this information with program databases, successfully tracking beneficiaries who moved, and making multiple visits to children's households. As a result, the study successfully interviewed 80% of children at follow-up who had completed a baseline survey. Analyses explored whether there were differences in the characteristics of those lost to follow-up versus those who participated in both survey rounds. No differences were found with respect to children's age, orphan status, whether they lived without a biological parent, had an ill household member or type of community (rural/urban) between those who did and did not participate in both survey rounds. The loss was also similar across both program model types.

Study Scope and Duration: The study focused on children age 10-17 at baseline, which means that impact among younger beneficiaries remain unknown. The research is also limited to a two year period, and some important effects of the programs may not have emerged within this time frame, such as whether children may be more likely to finish matric or delay pregnancy. This study also principally involved new paraprofessional sites with ongoing training for care workers; results may be different among families served by more established care workers. Nevertheless, two years of service delivery represents a significant investment and this study usefully examines what impacts may be possible over this time period across a large population of children and their caregivers.

Reliance on Respondent Recall: Exposure to home visiting and specific services was assessed via respondents' reports in the survey. Like all measures reliant on respondents' recollection of events, this and other program exposure questions may be subject to recall bias. In a recent malaria study from Zambia, four out of ten caregivers whose children had clinic-documented evidence of a finger/heel stick did not recall that the test had been conducted [7]. The timeline in that study was two weeks; this study asked respondents about home visits over a much longer time period. It is therefore possible that services were delivered at higher rates than estimated by the survey. However, recall bias is likely similarly prevalent across the two program models, lending credibility to any overarching conclusions when comparing the two approaches. Further, recall bias does not affect analyses assessing program impact on key outcomes as these were based on an 'intent-to-treat' approach (i.e., all enrollees were included regardless of reported service delivery).

Generalizability: This study was conducted in parts of KwaZulu-Natal only and results for programs situated in other parts of the country may differ. Each province in South Africa bears unique characteristics that limit the applicability of findings from one area to another. Organizations reported distinctive challenges that affected their work in KZN, including the practice of *ukuthwala* (i.e., forced child marriage through abduction), high rates of domestic violence, cultural attitudes condoning harsh disciplinary practices, frequently interrupted funding for social service programming, and limited fluency in English among local populations. The study areas were primarily rural communities (94%) and it is unknown if results in urban populations would be similar. Despite these caveats, the study did represent a population highly affected by HIV and AIDS, as KZN is home to nearly one-third of the country's HIV burden [8]. Furthermore, while other studies focus on a single program in a particular community, this study included two distinct program models: 14 paraprofessional sites and 16 volunteer-driven ones. Consequently, the results may be generalizable to a variety of operating contexts.



A profile of program participants

All programs in the study target their services to the OVC population under 18 years old, including children living with ill guardians, child-headed households and either orphans or children living in relative-headed households. The demographic profile of the sample reflects a highly vulnerable group. At baseline, almost two-fifths of those enrolled in the study were living with a chronically ill caregiver (defined as having chronic weakness/illness for at least 3 months in the preceding year; see Table 1). Children’s parents were often absent: 86% of beneficiaries had been orphaned by at least one parent; two-thirds were living without a biological parent in the home; and one percent resided in child-headed households (i.e., the primary caregiver was under the age of 18). Taken together, 94% of enrollees fell into at least one category of recognized vulnerability. Moreover, the majority of children (81%) also lived in extreme poverty, with a total monthly household income of less than R1000 (approximately \$111). About half of the children were female with a fairly even distribution across the various age groups (mean age of 13.6, standard deviation of 2.0).

Children enrolled in the paraprofessional program model were significantly more likely to be double orphans and living without a biological parent in the home, compared to children in the volunteer-driven program model. The reasons for these differences are uncertain and were controlled for in impact analyses to facilitate an assessment of program impact on the outcomes of interest independent of these differences.

Table 1. Demographic characteristics of children and their caregivers at baseline by program model

	Total Sample n=1487 %	Volunteers n=894 %	Paraprofessionals n=593 %
Chronically Ill Caregiver	37	38	37
Orphan Status*			
Maternal Orphan	11	10	14
Paternal Orphan	26	33	16
Double Orphan	49	37	67
Child living without a biological parent in the home*	65	54	83
Child-headed household*	2	--	1
At least one of the above*	94	92	98
Monthly household income under 1000 Rand	81	82	79
Female child	52	51	53
Child’s age			
10-11	21	22	19
12-13	27	26	27
14-15	31	28	34
16-17	22	24	19

*p<0.05 for chi-square test comparing the two groups

Program coverage

While all programs indicated that home visiting was their core service delivery mechanism, coverage was lower than expected. Only half of interviewees answered affirmatively when asked, “Community service organizations often engage community members who visit your home, sometimes known as caregivers, child care workers and/or aunties: You might also just know them by their first name. I refer to these people as care workers. Have you ever had a care worker visit your home?” Similar percentages of caregivers (52%) and children (46%) reported having been visited by a care worker.

Respondent-reported home visiting coverage varied substantially between the program models. We focus here on caregiver reports only. More caregivers enrolled in paraprofessional model programs reported having ever had a home visit, versus those in the volunteer-driven models (p<0.001; see Figure 1). Reports of receiving a home visit in the 12 months preceding the survey were similarly higher in the paraprofessional programs versus volunteer-driven ones (p<0.001; see Figure 1). Care should be taken when interpreting these results. Besides the potential for recall bias, it is also possible that some children included on the programs’ beneficiary lists at baseline had, before follow-up, graduated from programming due to their ages or because designated assistance and/or goals had been achieved. While it is difficult to estimate how common this situation may have been or what effect it had on the study’s results, lapses in home visiting could have been explained in part by legitimate factors.

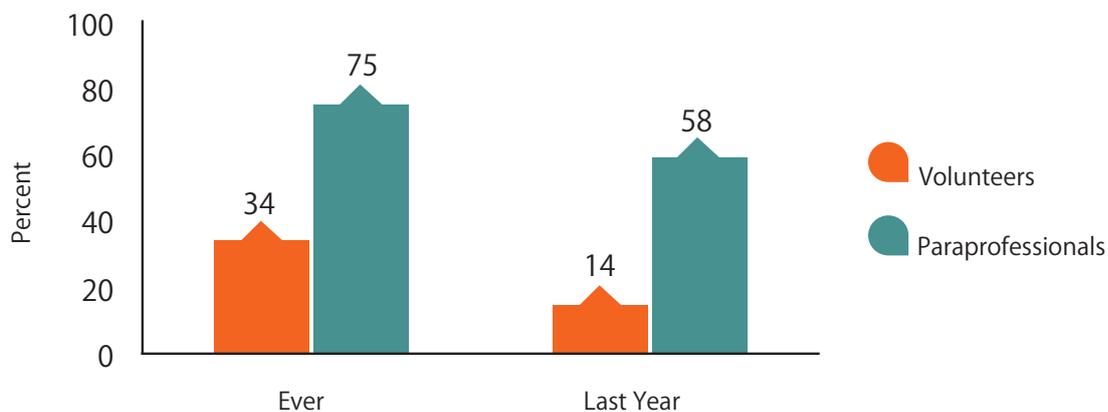


Figure 1: Home visit exposure by program model

Quality of home visits

Differences also emerged between the paraprofessional and volunteer-driven programs with respect to the quality of home visits. Visit quality is approximated by the frequency and duration of the visit, as well as the level of support provided. The frequency and duration of home visits were both greater among paraprofessional program enrollees ($p < .001$ and $p < .01$ respectively; see Table 2). Home visitors in the paraprofessional models also provided more social support during each visit; this included communication with caregivers on a larger variety of topics, greater interaction with the child, and more tangible support in the form of grant assistance.

Table 2. Frequency and duration of home visits reported by caregivers served in the past year

	Volunteers <i>n</i> = 87 %	Paraprofessionals <i>n</i> = 257 %
Frequency of visits***		
at least once a week	18	32
once every two weeks	21	31
about once a month	37	29
less than once a month	24	8
Duration of visit**		
less than 30 min	44	26
30 -59 min	22	29
an hour or more	32	42

** $p < .01$, *** $p < .001$ for chi-square tests comparing the two groups

During home visits, care workers are expected to provide support in a number of different ways. First, they may provide tangible support, such as food, school materials, assistance completing applications, or other visible forms of assistance that directly aid the recipient. Second, they may provide information that helps the recipient solve his or her own problems, such as providing advice on money management or educating about HIV risk factors and risk reduction. Finally, care workers may provide emotional support by building a relationship with the caregiver or child and validating the recipient’s feelings. Below we report on social support received by home visiting program beneficiaries in the study for each of these areas.

Study participants who answered yes when asked if a care worker had ever visited their home were also asked what types of tangible support they had received from care workers or others affiliated with the CBO. Tangible support took the form of food parcels, school fees, uniforms or materials; help obtaining personal, family or identifying documents; and help applying for a grant or pension (see Table 3). Food parcels were the most common type of support provided with no difference by program model. However, both assistance with obtaining documents and help applying for grants were significantly more common under the paraprofessional program models. Moreover, the provision of actual services from the paraprofessional programs is more pronounced given that these questions were asked only of those caregivers reporting home visits, and a far greater proportion of paraprofessional program recipients reported home visits.

Table 3. Type of tangible assistance provided by the care worker or anyone from the affiliated CBO (if ever visited)

Service Provided	Volunteers n = 210 %	Paraprofessionals n = 331 %
Help obtaining documents***	7	18
Help applying for a pension or grant***	13	28
Provision of food parcel in past year ^a	37	39
Help with school expenses	14	17

***p<0.001 for chi-square test comparing the two groups;

^a the sample size for this question is reflected in Table 2, as it was asked only among those served in past year

Care workers are also charged with providing emotional and informational support to caregivers; we expected this to be reflected in the discussions they initiated during home visits in the last year. Care workers serving as part of paraprofessional model programs communicated with the caregiver on a larger variety of topics during some or all visits ($p=0.02$; see Figure 2). Caregivers in paraprofessional programs were also more likely than those in volunteer-driven programs to report discussing effective ways to communicate with children during their visits (75% compared to 56%; $p<0.001$). The frequency of other topics discussed was similar across the two program models. Emotional support was commonly offered: 53% of caregivers reported discussing their feelings or emotions with the care worker some or all of the time. About half also reported discussions concerning family conflicts (50%) and plans for the future (52%). Care workers also provided a variety of informational support: they discussed how to care for one's self or others when someone is sick (reported by 66% of caregivers), how to reduce HIV risk (62%), how to manage money (48%), and how to apply for grants or pensions (42%).

While home visits don't focus exclusively on the child, some individual interaction with each child is usually considered advantageous to ensure that children feel supported and verify that their needs are being met. Thus, this study also examined the provision of emotional and informational support to the child. Importantly, children in the paraprofessional programs reported that care workers were significantly more likely to spend time talking with them on some or all visits to the home in the last year (84% versus 62%; $p<0.001$) and to cover a larger range of topics ($p<0.001$; see Figure 2). The most frequently discussed topic was the child's plans for the future (85%); this topic was the only one more commonly reported among children within the paraprofessional group (88% vs. 72%; $p<0.001$). Across both programs, a majority of children also reported discussing physical health (75%), reducing HIV risk (75%), feelings or emotions (71%), caring for the sick (71%), and family conflicts (56%) with the care worker some or all of the time.

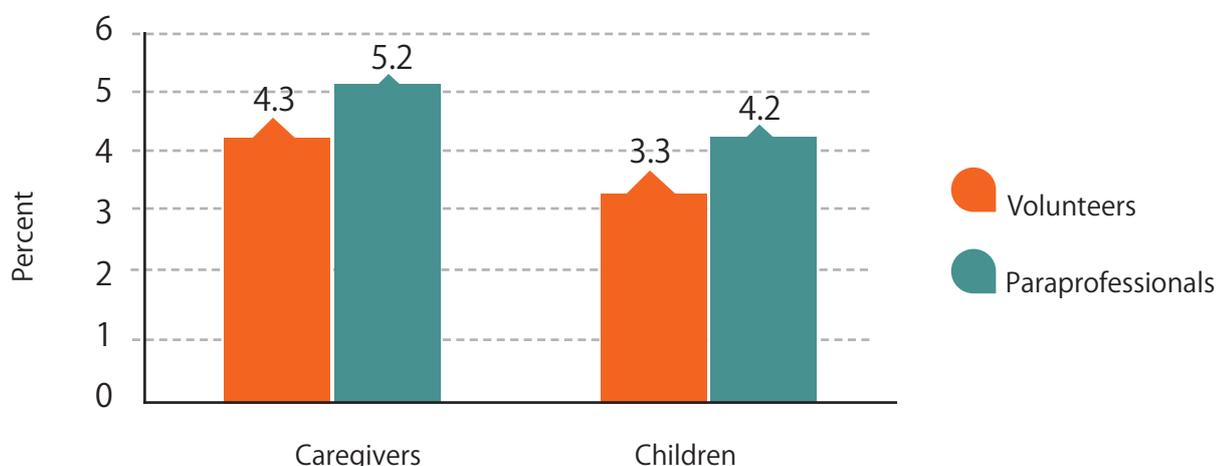


Figure 2. Average number of topics discussed with the care worker by program model



In examining the relative impact of volunteer-driven and paraprofessional home visiting models on child wellbeing, we focused on social protection grants, basic needs, psychological health of children and their caregivers, child protection, and HIV/AIDS knowledge and sexual debut. As mentioned earlier, this study aims to assess whether additional investment in program quality translates into greater gains for children's wellbeing. To address this question, the study compares the change on each outcome between beneficiaries enrolled in paraprofessional home visiting model programs and those enrolled in volunteer model programs. Analyses include all study children with two rounds of survey data, regardless of their reported exposure to home visiting. Given that a very low number of families in volunteer-driven programs reported receiving home visits, observed changes in this population are likely a reflection of what happens in the absence of measurable participant-reported program intervention. For example, gains in access to social grants seen among the volunteer program beneficiary group may be a result of government outreach rather than program impact. Relatively greater changes in the paraprofessional group versus the volunteer group are more likely to reflect program impact.

Social protection grants

The HIV epidemic exacerbates economic hardship: medical costs, lost income, and expenses associated with fostering additional children all contribute to families' impoverishment. Cash grants are an important tool to alleviate poverty, and are an integral part of South Africa's social protection scheme. This report focuses on two of the most common child-level grants. The Child Support Grant (CSG) provides a cash transfer to children in low-income families, with a monetary value of R290 per child per month as of 2013 [9]. The Foster Care Grant (FCG) helps guardians support non-biological children in their care and has a substantially higher monetary value of R800 a month as of 2013 [10].

Despite targeting to those most in need, the grants do not always reach marginalized groups: research shows that orphans are less likely than their peers to receive social grants for which they are eligible [11, 12]. To counter this disparity, care workers are trained to identify children who are eligible for grants and assist their caregivers with the application process. This can include helping them gather the necessary documents such as birth and death certificates, file applications, and liaise with social protection agencies. In particular, the FCG is more onerous to obtain than the CSG. It requires that the guardian first file notice with the court and be appointed as a legal foster parent [13]. This often necessitates acquiring additional documentation, including parental death certificates. Due to these additional barriers, many FCG-eligible guardians receive the lower CSG instead [14]. Care workers can identify children who are not receiving the full amount for which they are eligible, and help their caregivers to understand the eligibility requirements and submit applications.

The majority of beneficiaries were presumed eligible for either the CSG or FCG at both baseline and follow-up (87% and 79% respectively). The age criterion for CSG eligibility shifted from 15 to 17 years old during the course of the study and was adjusted for in assessments of grant eligibility. Those living without a biological parent in the home were deemed eligible for the FCG in this study, as de facto foster children, although their ability to become legalized foster parents may ultimately lie at the discretion of the local magistrate. While a complex means test is applied to applicants, financial eligibility is presumed in this study given the range of reported household incomes (see Table 1). As such, estimates reported here may differ slightly from true rates of eligibility and access.

Despite widespread eligibility for child grants, a notable proportion of enrollees had not accessed these resources at baseline and many were accessing a lower grant than they were eligible to receive [14]. As highlighted in Table 3 above, participants in the paraprofessional model reported that they were more likely to receive support with document acquisition and grant applications. This section explores whether they had measurable increased obtainment of grants. Overall, there was a marked increase in grant access between baseline and follow-up among participants in every program group. Yet, children in the paraprofessional programs were more likely to have received the highest grant for which they were eligible, as compared to children in the volunteer-driven programs.

Families in both program models showed improvements in grant access over time, but gains were greater for those enrolled in the paraprofessional programs. Grant access increased over the study period across both groups, with only one-fifth of the study population not receiving a grant (or with an application pending) at follow-up compared to about one-quarter of the population at baseline (see Figure 3). Notably, families enrolled in the paraprofessional model programs were more likely to have increased access at follow-up to the highest possible grant they were eligible to receive; whether this was a CSG or FCG depended on the underlying distribution of de facto foster children in the program population. Participants in the paraprofessional model programs were nearly three times as likely to have access to the highest grant they were eligible to receive (AOR 2.92, p-value=0.00). As displayed in Figure 3, paraprofessional program enrollees receiving the highest possible grant rose from 44% to 66% between the study's two data collection rounds.

The proportion of grant-eligible children receiving a FCG in particular increased from 36% to 54% among this group, as compared to only a 7% improvement among their counterparts in volunteer-driven programs. Access to the CSG rose more modestly for enrolees of both program models. Further, while grant access increased overall for enrolees of the volunteer-driven model, much of this was due to participants obtaining the CSG in spite of their potential eligibility to receive the FCG. Thus, it appears that paraprofessional home visitors may be better able to help beneficiaries navigate the complex systems necessary to obtain the FCG. In spite of these achievements, some gaps remain across both program model types. About one-fifth of children in the study were receiving the CSG despite being presumably eligible for the larger FCG. A similar number lacked access to any grant, although 5% had applications pending.

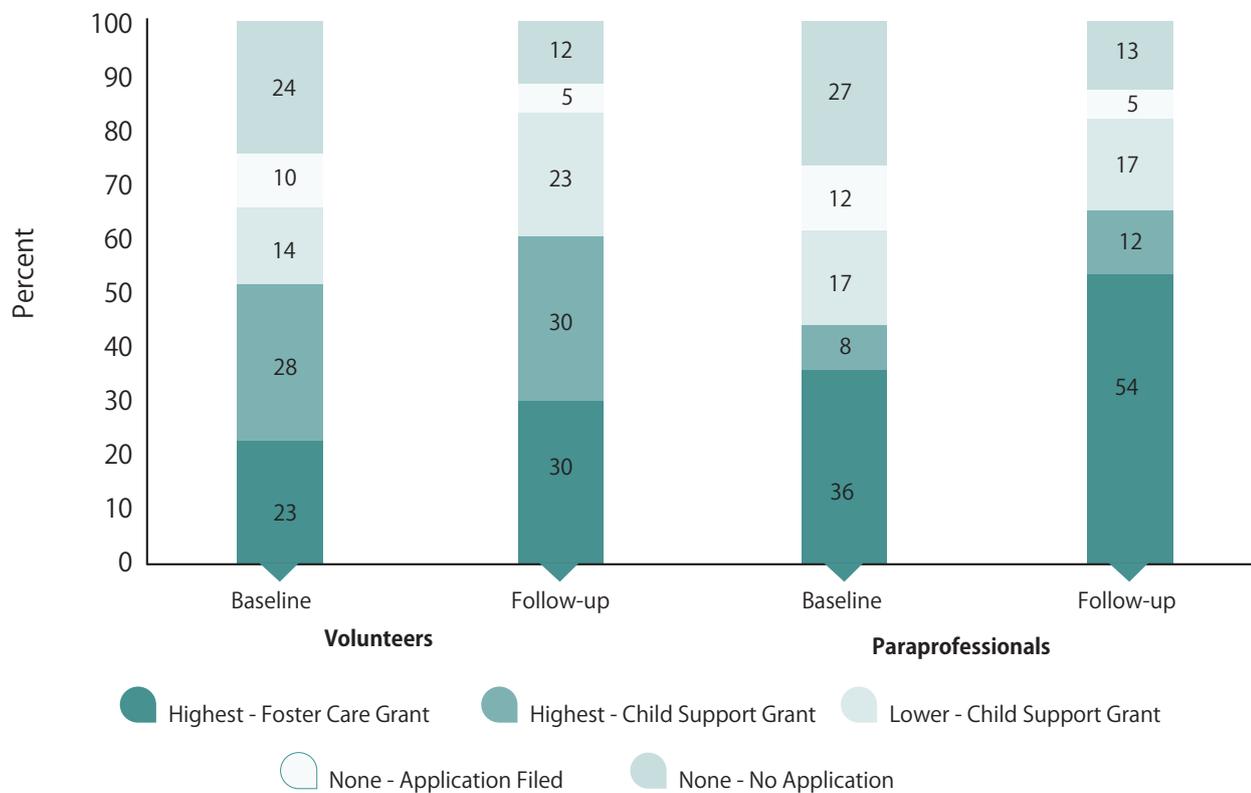


Figure 3. Grant status among eligible children at baseline and follow-up by program model
(bars do not add to 100% due to rounding)

Basic needs: education, food, material goods and health care

OVC often lack access to basic necessities and educational and health services [15, 16]. Care workers can help families meet these needs by providing food parcels and help with school-related expenses including fee waivers, all usually reserved for families in dire need. Moreover, by facilitating the grant application process, care workers help families obtain supplemental monthly income to spend on health care costs, immediate material needs, and other priority items. In South Africa, research suggests that child grants are used to purchase food, clothing, educational opportunities and health care for the recipient child [17]. Moreover, research shows that grant receipt can boost children’s school enrolment and increase food intake [11, 18-21]. As a result of tangible support and grant assistance provided by home visitors, we would thus expect to see better food security, higher school enrolment, improved access to health services, and greater fulfilment of children’s material needs over the two year study period.

School enrolment was quite high at baseline, 98% of children in both groups reported being currently enrolled, and this percentage did not change over time after controlling for age. This section therefore focuses on the extent to which the three following tangible basic needs were met for children in the study: food, material needs, and health care. Improvements in food security emerged for both groups with no difference by program model. However, gains in material needs were greater for families enrolled in the paraprofessional models versus volunteer-driven ones. Interestingly, reported unmet health needs were greater among those in the paraprofessional programs, which may be an indicator of greater awareness of health needs.

Food security increased overall; however, there was no difference by program model. Caregivers were asked a series of questions about household food security from the Household Food Insecurity Access Scale (HFAS) [22]. There was a reported decrease in hunger overall: at baseline, 84% of households were moderately or severely food insecure; this had dropped to 73% by the end of the study period. Food insecurity prevalence was similar between paraprofessional and volunteer-driven program enrollees at both baseline and follow-up.

Improvements in children's access to basic material needs were evident among those enrolled in paraprofessional models. Children were asked whether they had each of the following: a blanket for sleeping; a pair of shoes; and at least two sets of clothes (not including a school uniform). At baseline, only 52% of children had all of these items; at follow-up, 70% responded affirmatively to all three questions. The gain was greater among those enrolled in paraprofessional programs: 23% more reported having all of these material goods at follow-up, as compared to only a 15% improvement among those within the volunteer-driven models. Overall, enrollees in the paraprofessional programs were more than one and half times more likely than those in volunteer-driven programs to have each of these items at follow-up (AOR 1.72, $p = 0.003$).

Children and caregivers enrolled in the paraprofessional models had greater unmet need for health services over time. Caregivers were asked if there were any health services they currently needed and were not receiving and were similarly asked the same for study children under their care. Across the sample, 46% of caregivers reported they had an unmet need for health services at follow-up, an increase from 37% at baseline. Reported unmet need for health services for study children rose more modestly from 18% to 22% between the two survey rounds. For both outcomes, the reported unmet need stayed about the same over time for those within the volunteer-driven program models. However, these needs rose significantly for caregivers and children enrolled in the paraprofessional programs: caregivers' reported unmet health need increased from 35% to 51% between the two survey rounds (AOR 1.88, $p = 0.004$) and children's unmet health need within this population also rose slightly from 15% to 21% (AOR 1.63, $p = 0.03$). As highlighted above, physical health was a common topic discussed with care workers. However, if a care worker educates a caregiver about health needs the caregiver's reported need for health services may rise, but her need for services will remain unmet if the services are unavailable, costly, or perceived to be of low quality or culturally unacceptable. Thus, the reported rise in unmet health needs among enrollees within the paraprofessional models could possibly indicate greater awareness of health needs over time coupled with factors limiting access.

Psychological health

Many HIV-affected children are grappling with the illness and impending death of loved ones; others have already suffered the profound emotional consequences of losing a parent. Research from South Africa highlights the elevated risks of depression and behavior problems among orphans and other children living in HIV-affected households [23]. Their caregivers face similar challenges with emotional distress and resulting family tensions [24-26]. Recognizing that OVC and their caregivers are at risk for a host of psychological and social problems, home visitors often offer emotional support. As mentioned earlier, almost three quarters of all beneficiaries in the study who met with a care worker reported commonly discussing their feelings or emotions; almost half reported discussing family conflicts. This study examined the impact of such support on indicators of psychological health, reported either by the child or caregiver. There was no clear evidence of impact and two of the outcomes studied were demonstrably worse by follow-up.

Children's behavioral problems worsened over time and their depressive symptomatology stayed the same regardless of program model exposure. Caregivers were asked a series of questions designed to identify children's behavioral problems, including emotional, conduct, hyper-activity/inattention and peer relationship issues [27]. Overall, the prevalence of caregiver-reported behavioral problems for both boys and girls increased significantly, from 28% at baseline to 39% at follow-up (AOR 1.85, $p < 0.001$), and was not sensitive to program model regardless of participant gender. Behavioral problems were equally common in boys and girls at the first survey round, but slightly more common among males at follow-up ($p < 0.01$; see Figure 4). The prevalence of behavioral problems did not vary significantly by age of the youth.

The prevalence of depressive symptomatology was calculated based on children's responses to questions from a standardized depression survey, including "In the last week, how often did you feel down and unhappy?" and "How often were you bothered by things that don't usually bother you?" [28, 29]. Approximately 30% of children in the study reported high levels of depressive symptomatology at both survey rounds (see Figure 4), and there were no differences by program model. Rates were similar for both genders (see Figure 4). However, the likelihood of having high depressive symptomatology increased with age: for each year there was a 6% greater odds they reported high levels of depressive symptomatology (AOR = 1.06, $p = 0.009$)

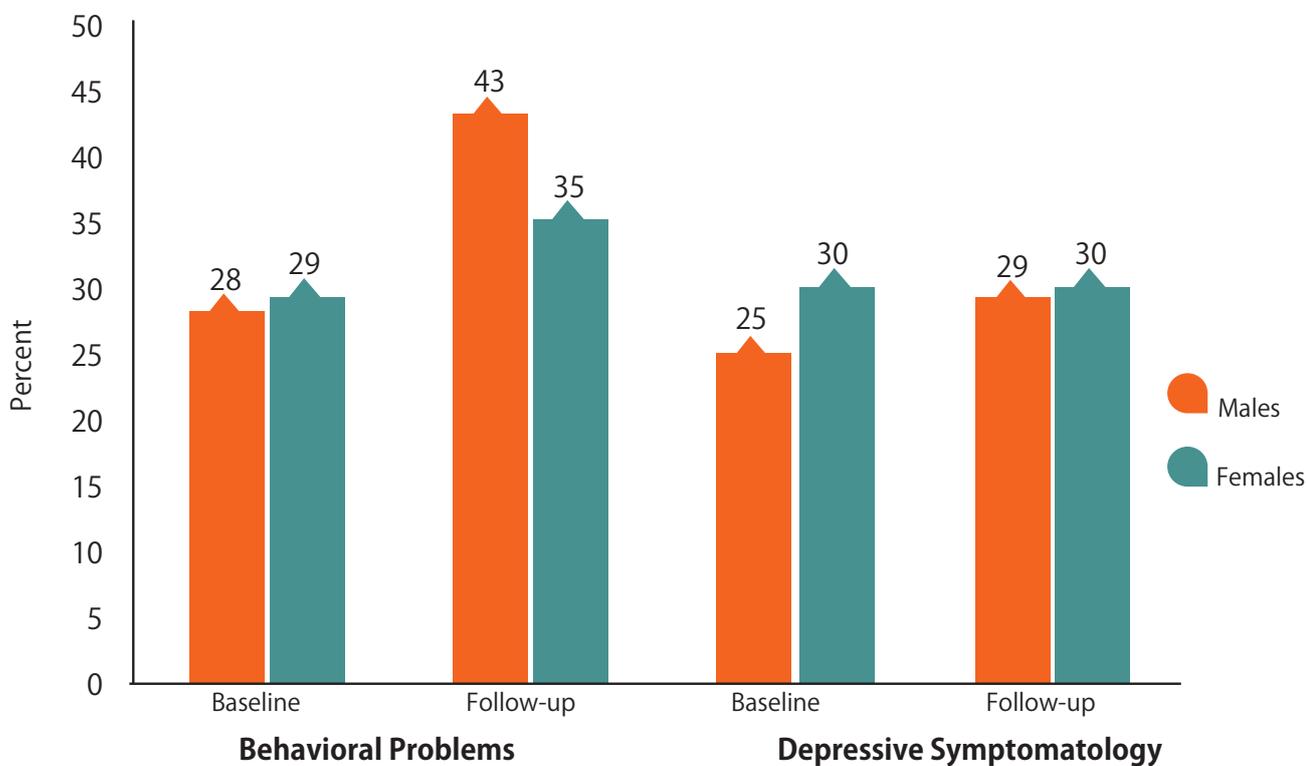


Figure 4. Child behavioral problems and depressive symptomatology by gender at baseline and follow-up

Family conflict worsened over time and caregivers supported by the paraprofessional models showed no improvement in their level of negative feelings. Family functioning was reported by caregivers and included questions concerning interactions with household members (e.g., whether members have bad feelings about or can't confide in one another) [30, 31]. Family conflict appears to have escalated over time: caregivers were almost four times as likely to report poor family functioning at follow-up compared to baseline (30% to 59%; AOR 3.80, $p < 0.001$), regardless of which program model they were exposed to. Caregivers were also asked a series of questions to assess their emotional state [32], such as "How much do any feelings of sadness or depression interfere with your everyday functioning?" Surprisingly, there was a reduction in negative feelings among enrolees in the volunteer-driven model alone: the prevalence of negative feelings dropped significantly in this group (from 44% to 33%; AOR 0.71, $p = 0.016$). There was no worsening or improvement in the level of negative feelings among enrolees of the paraprofessional models. As reported at baseline, those with a chronically ill household member were significantly more likely to report high levels of negative feelings and poor family functioning, and these outcomes were also associated with an increased likelihood for children to report maltreatment [33, 34].

Child protection

Children living in stressful situations, many without the protection of their parents, may be more likely to experience maltreatment at home. While a substantial body of literature illustrates high risk of psychosocial distress among OVC, only a small number of studies in sub-Saharan Africa have examined these children's vulnerability to maltreatment [35]. The studies that do exist strongly suggest that OVC are at elevated risk for abuse relative to their peers. Moreover, baseline data from this study confirmed OVC had high rates of both verbal and physical maltreatment perpetrated by adults in their household [33]. While home visiting has been previously linked with the prevention of child maltreatment [36], it should be acknowledged that at the outset of the study, none of the programs listed child maltreatment as one of the priority outcomes they expected the program to impact. However, many of their program efforts are designed to promote child protection more broadly, as for instance, 75% of caregivers served by paraprofessionals reported discussing with the care worker effective ways to communicate with children. Paraprofessional care workers were also significantly more likely than volunteer care workers to discuss this topic with caregivers.

Children’s reported maltreatment by adults in their household increased over time among both boys and girls, regardless of program model or type of abuse. Reports of verbal maltreatment in the past year almost doubled from baseline to follow-up among both boys and girls (see Figure 5). Reports of physical maltreatment in the past year also increased for both genders. While girls were more likely to report verbal maltreatment at baseline [33], males were equally likely to report past-year verbal maltreatment at follow-up. Physical maltreatment was also equally common in children of both genders. The prevalence of physical or verbal maltreatment did not vary by program model exposure for either gender. Overall, 59% of children reported experiencing either verbal or physical maltreatment from adults in their home in the 12 months preceding the follow-up survey, an increase of 15% from the first interview round. It is important to note that this study measured reports of abusive behaviours (e.g., name calling, verbal threats, being disciplined with a stick or other hard object, being punched); the observed rise could reflect an actual increase in these adverse experiences, an increase in children’s willingness to disclose maltreatment, or a combination of both. However, the increase was similar regardless of program model, and thus not measurably affected by paraprofessional care workers.

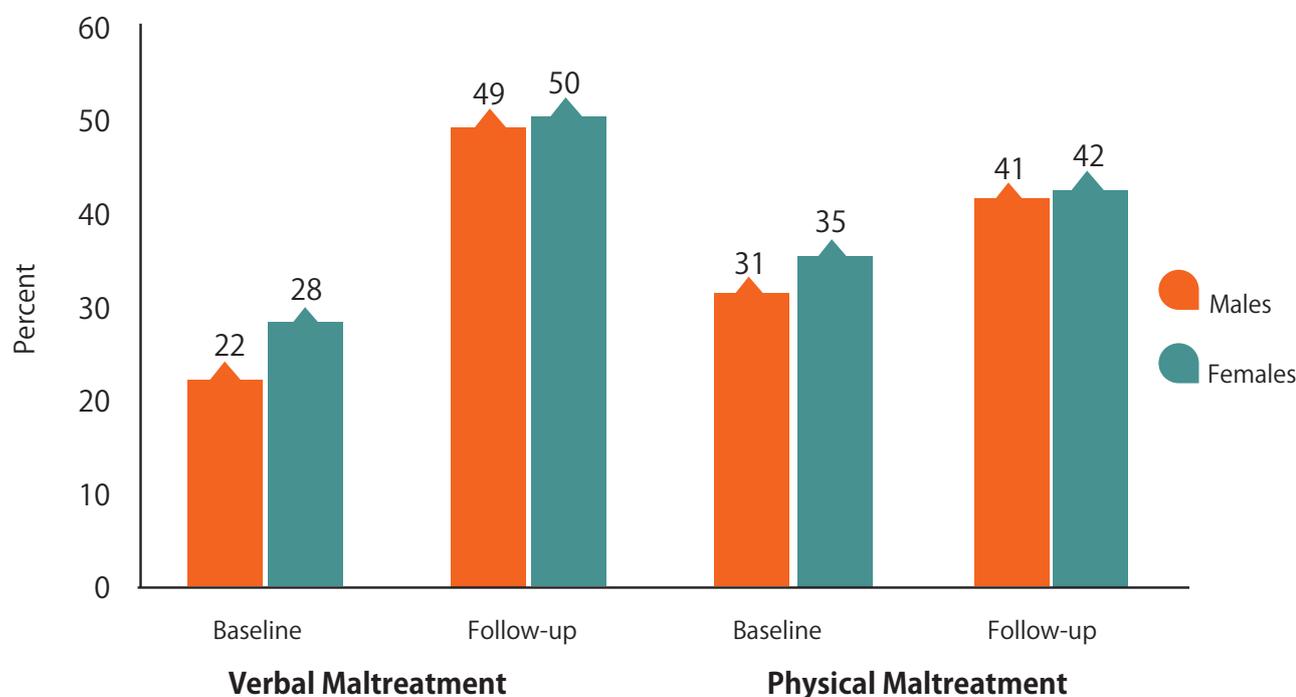


Figure 5. Child reported maltreatment by gender at baseline and follow-up

HIV and AIDS risk factors

Children affected by HIV have a disproportionate likelihood of early sexual debut and HIV infection. Reducing these children’s vulnerability will require a multi-pronged approach – including reducing poverty and expanding educational opportunities. Critically, any approach must also ensure that children have the knowledge and skills need to protect themselves against HIV. Baseline results showed that study children had high rates of insufficient HIV knowledge [37]. Care workers can play an important role in educating children about how to prevent HIV, particularly in contexts such as this one where they report commonly discussing HIV risk with program home visitors. Thus, we would expect basic knowledge about HIV and AIDS to increase. This study asked all children about whether they had heard of AIDS, whether it could be prevented, and questions regarding common misconceptions concerning HIV transmission; children who answered these questions correctly were considered to have basic knowledge. Children over the age of 12 were additionally asked about sexual debut.

There was no meaningful change in children’s knowledge of HIV and AIDS or sexual debut as a result of program exposure. As Figure 6 illustrates, older children were more likely to have comprehensive HIV knowledge, although nearly half of 18 and 19 year olds still lacked basic knowledge at follow-up. For children of any given age, however, the prevalence of comprehensive knowledge was similar at baseline and follow-up. Any observed differences were due to the population having aged two years between survey rounds, and there was no difference by program model. We ran additional analyses to explore program impact by gender; we did not see an impact by program model for either males or females. The same pattern appeared when we examined sexual debut: the proportion of adolescents that were sexually experienced rose over the course of the study from 7% to 23%, but again this was likely due to aging within the study population and did not vary by program model. Children of both genders had similar rates of debut, and stratified analyses did not reveal program impact for this indicator within either gender.

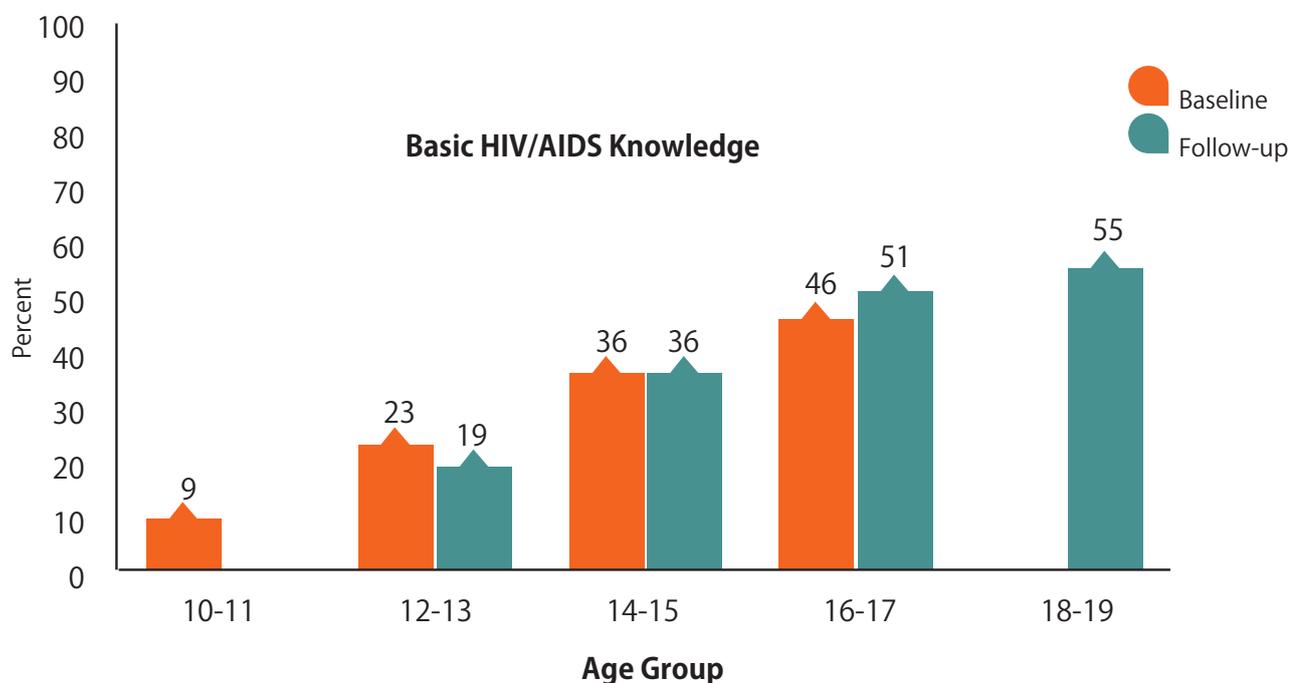


Figure 6. Basic HIV knowledge among child beneficiaries at baseline and follow-up

CONCLUSIONS

This study provided an opportunity to examine the services being offered in a number of home visiting programs and to estimate the effects of paraprofessional versus volunteer-driven program models on key outcomes such as material needs, food security, social grants access, psychological health, child maltreatment and HIV risk factors. Results clearly indicate that programs making investments in their care workers through training and compensation are able to achieve far greater service coverage and provide more consistent support over longer periods. Moreover, home visits conducted as part of these paraprofessional programs are more frequent, last longer, and are more likely to engage the child directly. Higher quality services were found to positively influence grant access and obtainment of material needs, important contributors to wellbeing. In spite of these notable achievements, other conditions stayed at constant levels or worsened among OVC in this study, regardless of program. Even the paraprofessional programs were unable to mitigate the psychological health outcomes measured in this study, ensure children’s protection from maltreatment, or equip them with adequate knowledge about HIV.

Ultimately, findings served to highlight the complex issues facing orphans and vulnerable children and their caregivers. The expectation that care workers, even those who are well trained and compensated, would be able to abate all of the myriad challenges facing low-income children and families affected by HIV and AIDS through a program centered on home visiting may be unrealistic. With specialized training, home visitors may be able to achieve specific improvements in the wellbeing of beneficiary families. For instance, paraprofessional home visitors in this study were effective at helping families navigate the complex processes crucial to accessing social grants. Home visiting programs for OVC could potentially benefit from narrowing their focus to identify their most urgent needs and tailoring services and training towards achieving a small set of targeted outcomes. Applying this targeted approach has apparent potential to produce measurable improvements. However, home visiting may also be just one necessary strategy in a range of interventions to effectively address the full spectrum of families’ needs.

The past two decades have seen a dramatic rise in the number of children affected by HIV, and a corresponding investment in programs to support orphans and other vulnerable children. Many OVC programs were initiated as part of an emergency response to the crisis, and are now maturing into sustainable, long-term commitments to children, families and communities. This is an opportune time for critical examination of what is and is not working to improve the wellbeing of OVC, particularly in countries like South Africa where the OVC population is considerably large. This study examined the impact on a number of wellbeing outcomes of two approaches to home visiting, currently one of the most common strategies for supporting OVC. Findings pose important implications for effective OVC program design, and are summarized below.

Reliance on volunteers may be an obstacle to effective service delivery. Although all of the programs in the study were able to identify and enrol vulnerable children as beneficiaries, those operating with volunteer home visitors fell short in delivering the services envisioned. Only a third of children in the volunteer-driven programs reported receiving a home visit, and of those less than half received a visit during the second year after enrolment. In addition, the visits were less frequent and shorter than visits conducted by care workers in paraprofessional programs. Volunteers were less likely than paraprofessionals to interact with children directly during visits, and provided less tangible, informational and emotional support.

There is a seemingly sound rationale for volunteer-driven programming, which can be implemented without significant financial investment and is less sensitive to resource variation than costlier models. However, findings from this study suggest that programs that rely only on volunteers often fall short in their efforts to provide quality services. This is partially a matter of scale: in programs that lack training and compensation for their home visitors, home visiting is simply not occurring as designed. For home visiting to achieve good coverage necessitates investment in developing a trained paraprofessional workforce. More research is needed to determine the elements of paraprofessionalism that contribute most to increases in quality – employment prerequisites, the intensity or content of training, opportunities for professional development, amount of compensation, or other factors.

Even paraprofessional home visiting programs require more oversight and supervision to ensure quality implementation. There was a substantial difference between the number of children registered as enrollees and the number who reported receiving home visiting services. This finding is not unique to South Africa; research on OVC programs elsewhere in sub-Saharan Africa has also shown home visiting occurring at lower frequency and scale than envisioned, even when care workers were receiving compensation [38, 39]. Assessment of the specific factors influencing home visiting frequency – for example, lack of transportation, long travel times, perceived lack of importance relative to other responsibilities, high household to care worker ratio – should be a high priority for programs so that tailored remedies can be implemented. Future program evaluations can also consider comparing beneficiaries' responses against service delivery records wherever possible, and use the results to judge the likely validity of each source.

To encourage care workers' awareness and adherence to quality standards, new systems may need to be put in place to monitor how services are delivered. For instance, program staff from a mentorship program in Rwanda conducted quarterly visits to each beneficiary household to monitor the quality of the relationship between home visitors and the children they served [40]. These types of quality controls may be particularly useful in newly established sites and among inexperienced care workers, as was the case among many partners within this study. In addition, increased emphasis should be placed on tracking indicators of beneficiary wellbeing (e.g., successful grant applications or school fee waivers filed) and communicating these results to care workers; this will reinforce accountability to community constituents and donors but also provide home visitors with real evidence of the relationship between their work and improvements in children's lives.

Home visiting provided by paraprofessionals helps link families to needed social grants, but enhanced efforts are needed. Grants provide predictable monthly transfers, enabling caregivers to meet children's urgent needs and better plan for future expenditures. Available evidence from South Africa highlights the transformative impact of this intervention: grant receipt has been associated with greater school enrolment, increased food consumption and nutritional status, and reduced risk behaviour among adolescent beneficiaries [11, 41, 42]. Studies have shown that orphans, particularly maternal orphans, are less likely than their peers to receive a CSG [11, 43]. Reaching this high-need, underserved group with grant assistance should be a high priority for home visiting programs. This study illustrates that trained and compensated home visitors have higher potential to facilitate families' access to this substantial resource. Yet, even among those in programs staffed by paraprofessionals about ten percent were not receiving a grant, and another fifth were likely eligible for a grant with a higher monetary value than the one they were receiving. Some suggested approaches for strengthening current programming include formalizing annual eligibility assessments for beneficiaries, offering continuing education for home visitors to keep them abreast of changes in the grant system, creating clear linkages with SASSA to facilitate the application process, and training care workers to follow-up on applications that are pending approval.

Supportive services are necessary to optimize health. There was no evidence in this study that care workers were able to link beneficiaries to needed health services. In fact, beneficiaries in the paraprofessional model reported a higher unmet need for health services. While OVC home visiting programs elsewhere have reportedly resulted in increased access to health services and improved health among recipients; these programs often included specific funding for medical services [44]. It may be that paraprofessional care workers can effectively educate beneficiaries about their healthcare needs, potentially explaining the rise in awareness of need for health services seen among these participants. However, access to health services may be hindered by transport issues, registration and user fees at health facilities, lost wages due to long waiting times, and limited availability of quality health services [45]. Without coupled investment towards alleviation of other barriers, it is unlikely that beneficiary education alone will facilitate increased access to health services. Programs operating in resource constrained areas may need to invest in alternative strategies to bridge the gap between need and service access.

Alternative approaches are likely necessary to address unmet psychological and behavioral needs. Home visitors are well placed in the community to identify vulnerable households and offer a general needs assessment. Given the high prevalence of psychological problems in this population, screening for depression, conduct problems and other common issues could be introduced as part of standard assessments conducted with both children and caregivers. As generalists, however, home visitors may not be sufficiently equipped to address severe psychological problems. Findings from this study reiterate this point; not only was there no measurable reduction in psychological distress among children or caregivers, but behavioural problems and family conflict actually became more prevalent over the course of the study. While past research has shown limited support for home visiting as a contributor to improved psychosocial outcomes, depression levels were unaffected in even the most intensive program models [44, 46]. Similarly, home visiting has not been consistently found to improve the psychological health of caregivers [44]. Although it is possible that the support provided by care workers contributes to improved emotional health in ways the study did not measure, there remains a clear need to address depression and other behavioral challenges in this population. To address the full scope of psychological issues facing OVC and their families, alternative approaches should be considered. Unfortunately, the evidence-base for interventions targeting psychological health in this population remains scarce [47]. Limited available research highlights the potential for structured interventions such as curriculum-based support groups to effectively alleviate psychological distress in children and caregivers [48-52]. Engaging the support of experts, specialized training for a limited set of care workers in psychological assessment and care may also be an option.

Linkages with child protection agencies and support for caregivers should be strengthened. Reported child maltreatment rose over the study period; by follow-up, 60% of children reported at least one form of maltreatment. A new strategy is urgently needed to identify and address maltreatment in this already vulnerable population. Trained home visitors that focus intensively on supporting caregivers have been found to reduce child maltreatment in other contexts [36], although the same effects were not seen in this study. Several organizations in South Africa focus exclusively on child protection and the promotion of children's rights [53]. These specialized service providers may be able to provide guidance on how home visitors could better be trained to detect harsh punitive practices and effectively intervene with caregivers to promote more positive child rearing practices. Through a collaborative referral process, these organizations could also arrange coordinated follow-up in cases requiring immediate attention, leading to better outcomes. In addition, these agencies may be well equipped to support the development of caregiver-level interventions focusing on parenting skills, coping mechanisms, and promoting healthier interactions with children. Finally, given the previously reported relationship between poor family functioning and child maltreatment [33], as well as the corresponding rise in both of these outcomes found in this study, there remains a need for intensified efforts to provide caregivers with social and emotional support. Structured support groups for OVC caregivers may be a viable option, with prior research highlighting their potential to mitigate family conflict and abuse [52]. Further investment is needed in the development of effective strategies for preventing children's maltreatment that might feasibly be implemented in community care settings.

OVC programs should focus on prevention education interventions as a means of reducing risk. Despite reported discussions about HIV prevention with home visitors, HIV and AIDS knowledge among children remained low. One possibility is that casual discussions are not effective mechanisms for transferring applicable knowledge to youth. Another possibility is that home visitors lack comprehensive HIV knowledge themselves. In either case, profound need exists for delivering HIV prevention education using proven strategies.

For care workers to increase HIV knowledge among beneficiaries, programs should provide training comparable to that received by staff members who run individual and small-group prevention interventions for other populations. Care workers should also be offered opportunities to build their skills in working and communicating with children and youth, which would not only enhance the quality of their HIV education efforts but other efforts as well. Alternatively, a review of HIV prevention programs within South Africa highlights the potential of peer-group approaches, noting the importance of the group dynamic and opportunities for interpersonal communication [54]. Similarly, a review of 83 evaluations of sex and HIV education programs for adolescents illustrates the significant promise of curriculum-based approaches, particularly those that are tailored specifically to the target population [55].

For additional Program Implications and to obtain further details on outcomes reported here and factors influencing such outcomes, readers are advised to see the baseline reports:

Thurman T.R., Kidman, R., & Taylor, T.M. (2011). *Assessing the Impact of Interventions to Meet the Needs of Orphans and Vulnerable Children in KwaZulu-Natal, South Africa; Study Overview and Baseline Demographics*. New Orleans, Louisiana: Tulane University.

Thurman, T.R., & Kidman, R. (2011). *Child Maltreatment at Home: Prevalence among Orphans and Vulnerable Children in KwaZulu-Natal, South Africa*. New Orleans, Louisiana: Tulane University.

Kidman, R., & Thurman T.R. (2011). *Chronic Illness in the Home: Implications for Children in KwaZulu-Natal, South Africa*. New Orleans, Louisiana: Tulane University.

Thurman, T.R., & Kidman, R. (2011). *HIV and AIDS Knowledge among Orphans and Vulnerable Children in KwaZulu-Natal, South Africa*. New Orleans, Louisiana: Tulane University.

Taylor, T.M., Kidman, R., & Thurman, T.R. (2011). *Household Resources and Access to Social Grants among Orphans and Vulnerable Children in KwaZulu-Natal, South Africa*. New Orleans, Louisiana: Tulane University.

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